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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,042	01/17/2002	Madhusudhan Rangarajan	16356.664 (DC-03214)	1261

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EXAMINER

BAKER, PAUL A

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,042

Applicant(s)

RANGARAJAN ET AL.

Examiner

Paul A Baker

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-13, 15-21 is/are rejected.
- 7) ☒ Claim(s) 7, 14 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: Page 3 line 13 sentence is incomplete. Removal is required since completion of the sentence would constitute new matter.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

Claims 15-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer program is not tangibly embodied on a computer readable medium.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 5, 6, 8, 9, 11-13, 15, 16, 18, 19, 20, 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Elnozahy et al. US Patent 6,701,421.

In regards to claim 1, Elnozahy discloses an information handling system comprising:

a first node for:

detecting a first memory in the first node;

detecting a second memory in a second node coupled to the first node;

ensuring that a first set of contiguous addresses is mapped to a portion of the first memory, the first set of contiguous addresses each having a value lower than a four gigabyte address; and

ensuring a second set of contiguous addresses is mapped to a portion of the second memory, the second set of contiguous addresses each having a value lower than the four gigabyte address all are described in column 5 lines 18-46 and shown in figure 5.

In regards to claim 2, Elnozahy discloses the information handling system of claim 1, wherein the first node is for:

reserving a third set of contiguous addresses that each have a value lower than the four gigabyte address in column 5 lines 18-46 and shown in figure 5.

In regards to claim 4, Elnozahy discloses the first node is for:

detecting a size of the first memory in the first node; and

determining a size of the portion of the first memory in response to the size of the first memory in column 5 lines 33-46.

In regards to claim 5, Elnozahy discloses the first node is for:
detecting a size of the second memory in the second node;
and determining the size of the portion of the first memory and a size of the portion of the second memory in response to the size of the first memory and the size of the second memory in column 5 lines 33-46.

In regards to claim 6, Elnozahy discloses the first node is for:
detecting a number of nodes that are coupled to the first node; and
determining a size of the portion of the first memory in response to the number of nodes in column 5 lines 28-35.

In regards to claim 8, Elnozahy discloses a method comprising:
detecting a first memory in a first node;
detecting a second memory in a second node coupled to the first node;
ensuring that a first set of contiguous addresses is mapped to a portion of the first memory, the first set of contiguous addresses each having a value lower than a four gigabyte address;
and ensuring a second set of contiguous addresses is mapped to a portion of the second memory, the second set of contiguous addresses each having a value lower than the four gigabyte address all of which is disclosed in column 5 lines 18-46 and shown in figure 5.

In regards to claim 9, Elnozahy discloses reserving a third set of contiguous addresses that each have a value lower than the four gigabyte address in column 5 lines 33-46.

In regards to claim 11, Elnozahy discloses detecting a size of the first memory in the first node; and determining a size of the portion of the first memory in response to the size of the first memory in column 5 lines 33-46.

In regards to claim 12, Elnozahy discloses detecting a size of the second memory in the second node; and

determining the size of the portion of the first memory and a size of the portion of the second memory in response to the size of the first memory and the size of the second memory in column 5 lines 33-46.

In regards to claim 13, Elnozahy discloses detecting a number of nodes that are coupled to the first node; and

determining a size of the portion of the first memory in response to the number of nodes in column 4 line 66 through column 5 line 16.

In regards to claim 15, Elnozahy discloses a computer program product comprising:

a computer program processable by a first node to:

- detect a first memory in the first node;
- detect a second memory in a second node coupled to the first node;
- ensure that a first set of contiguous addresses is mapped to a portion of the first memory, the first set of contiguous addresses each having a value lower than a four gigabyte address; and
- ensure a second set of contiguous addresses is mapped to a portion of the second memory, the second set of contiguous addresses each having a value lower than the four gigabyte address; and an apparatus from which the computer program is accessible by the first node all of which is disclosed in column 5 lines 18-46 and shown in figure 5.

In regards to claim 16, Elnozahy discloses wherein the computer program is processable by the first node to:

- reserve a third set of contiguous addresses that each have a value lower than the four gigabyte address in column 5 lines 33-46.

In regards to claim 18, Elnozahy discloses the computer program is processable by the first node to:

- detect a size of the first memory in the first node;
- and determine a size of the portion of the first memory in response to the size of the first memory in column 4 line 66 through column 5 line 16.

In regards to claim 19, Elnozahy discloses the computer program is processable by the first node to:

detect a size of the second memory in the second node; and

determine the size of the portion of the first memory and a size of the portion of the second memory in response to the size of the first memory and the size of the second memory in column 4 line 66 through column 5 line 16.

In regards to claim 20, Elnozahy discloses the computer program is processable by the first node to:

detect a number of nodes that are coupled to the first node;

and determine a size of the portion of the first memory in response to the number of nodes in column 4 line 66 through column 5 line 16.

In regards to claim 22, Elnozahy discloses the computer program comprises a basic input output system (BIOS) in column 4 lines 22-26.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 10, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elnozahy et al US Patent 6,701,421 in view of Intel Multiprocessor Specification Version 1.4.

Elnozahy discloses map the third set of contiguous addresses to a portion of the third memory in figure 5 element 520, but does not disclose the third node is coupled to the first node subsequent to the first node and the second node being booted. Intel discloses fault resilient booting on page 3-16 section 3.9 where the boot processor will reintegrate a processor which had originally faulted and required rebooting. Elnozahy discloses the incorporation of Intel MPS version 1.4 in column 4 lines 10-15 therefore it would have been obvious to one of ordinary skill in the art at the time of invention to integrate a processor which is booted after the first two node have been booted and integrated.

Allowable Subject Matter

Claims 7, 14 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

DeSota et al. US Patent 6295,584, Aono US Patent 6,351,798, and Tetrack US Patent 5,682,512 discloses memory map translation for multiprocessor systems

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A Baker whose telephone number is (703)305-3304. The examiner can normally be reached on M-F 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703)306-2903. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PA

Mano Padmanabhan
3/22/04

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SUPERVISORY PATENT EXAMINER
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